

2007 Census of Government Employment Methodology

The U.S. Census Bureau sponsors and conducts this census of state and local governments as authorized by Title 13, United States Code, Section 161.

The 2007 Census of Government Employment measures the number of federal, state, and local civilian government employees and their gross payrolls for the pay period including March 12, 2007.

Population of Interest

The population of interest for this census includes the civilian employees of all the Federal Government agencies (except the Central Intelligence Agency, the National Security Agency, and the Defense Intelligence Agency), all agencies of the 50 state governments, and 89,476 local governments (i.e., counties, municipalities, townships, special districts, and school districts) including the District of Columbia.

Content of the Survey

The survey provides data on full-time and part-time employment, part-time hours worked, full-time equivalent employment, and payroll statistics by governmental function (i.e., elementary and secondary education, higher education, police protection, fire protection, financial administration, central staff services, judicial and legal, highways, public welfare, solid waste management, sewerage, parks and recreation, health, hospitals, water supply, electric power, gas supply, transit, natural resources, correction, libraries, air transportation, water transport and terminals, other education, state liquor stores, social insurance administration, and housing and community development).

The payroll data for the Federal Government are total monthly payroll only. There is no detail available for full-time or part-time employee payrolls. Three functions apply only to the Federal Government and have no counterpart at the state and local government levels: national defense and international relations, postal service, and space research and technology.

The questionnaires that were used to collect these data can be viewed at <[GET FORMS](#)> on the Government Employment and Payroll Website.

Critical definitions include the following:

Employment: Employment refers to all persons gainfully employed by and performing services for a government.

Employees: State and local government employees include all persons paid for personal services performed, including persons paid from federally funded

programs, paid elected or appointed officials, persons in a paid leave status, and persons paid on a per meeting, annual, semiannual, or quarterly basis. Unpaid officials, pensioners, persons whose work is performed on a fee basis, and contractors and their employees are excluded from the count of employees. For federal employees, employee counts are the on-board "head count" as of the end of the report period. The data collected for this survey include all federal civilian employees, including seasonal and intermittent employees, and employees on foreign assignments residing outside the 50 states and the District of Columbia. Employees of the Central Intelligence Agency, the National Security Agency, and the Defense Intelligence Agency are not included in any of the data presented by government function. Federal judges, members of Congress and their staffs, employees of the Congressional Budget Office, and elected (with the exception of the President) and appointed officials of the Executive Branch are included. Employees of non-appropriated funds of defense activities are not classified as federal employees; therefore, they are excluded.

Full-time employees: Full-time employees are defined to include those persons whose hours of work represent full-time employment in their employing government.

Part-time employees: Part-time employees are those persons who work less than the standard number of hours for full-time work in their employing government.

Full-time equivalent: Full-time equivalent (FTE) is a computed statistic representing the number of full-time employees that could have been employed if the reported number of hours worked by part-time employees had been worked by full-time employees. This statistic is calculated separately for each function of a government by dividing the "part-time hours paid" by the standard number of hours for full-time employees in the particular government and then adding the resulting quotient to the number of full-time employees.

Payroll: Payroll amounts represent gross payrolls for the 1-month period of March (31 days). The gross payroll includes all salaries, wages, fees, commissions, bonuses, or awards paid to employees during the pay period that includes the date of March 12. Payroll amounts reported for a period other than 1-month are converted to represent an amount for the month of March. All payroll figures are represented in current whole dollars and have not been adjusted for inflation.

Conversion of a reported payroll to a payroll amount that would have been paid during a 31-day month is accomplished by multiplying the reported payroll by an appropriate factor. For example, a 2-week payroll is multiplied by 2.214; a 1-week payroll is multiplied by 4.429; and a twice-a-month payroll is multiplied by 2.000.

Part-time hours: These data represent the number of hours worked by part-time employees during the pay period. Note: These data are not collected for publication but rather are used to calculate full-time equivalent employment data.

Data Collection

The data that are collected in this survey are public record and are not confidential¹. Data in these files are based on information obtained from the 2007 Census of Government Local Government Directory Survey (form G-30) and the 2007 Census of Government Employment (forms E-3 and E-7).

As a part of the organization phase of the census, the G-30 form was mailed to special district governments. The data items collected were identical to those collected on the E-3 and E-7 forms. The only difference was the time period for the requested data. The G-30 form requested monthly data for October 2006 while the E-3 and E-7 requested data for March 2007. Instructions on the form informed respondents that if they completed the employment portion of the G-30 form, they would not receive an E-3 or E-7 form. This was done to reduce respondent burden.

In March 2007, the E-3 and E-7 forms were mailed to all special districts in the 2007 universe that had not provided employment data on the G-30 form. Units reporting employment data on the G-30 form are identified on the data file with a flag of "D" in position "96" on the individual government data file.

Census Bureau staff compiled Federal Government data from records of the U.S. Office of Personnel Management. Forty-four of the state governments provided data from central payroll records for all or most of their agencies/institutions. Data for agencies and institutions for the remaining state governments were obtained by mail canvass questionnaires. Local governments were also canvassed using a mail questionnaire. However, elementary and secondary school system data in Florida, North Carolina, North Dakota, and Washington were supplied by special arrangements with the state education agency in each of these states. Data for Delaware school districts are provided by the state central collection respondent.

The collection schedule follows:

G-30 Special Districts Form

10/25/2006	Initial mailout
01/23/2007	Follow-up mail
03/19/2007	Data editing completed

2007 Census of Government Employment Forms

03/26/2007	Initial mailout
04/26/2007	Reminder letter mailout
06/01/2007	Follow-up mail

¹ Title 13, United States Code, Section 9.

05/12/2008	Data editing completed
09/30/2008	Imputations completed
10/06/2008	Final file
10/22/2008	Released to Census Bureau Internet
11/26/2008	Revised data released to Census Bureau Internet
01/29/2009	Revised data released to Census Bureau Internet
12/09/2009	Revised data released to Census Bureau Internet

Data Processing

Editing

Editing is a process that tries to ensure the accuracy, completeness, and consistency of survey data. Efforts are made at all phases of collection, processing, and tabulation to minimize reporting, keying, and processing errors.

Although some edits are built into the Internet data collection instrument and the data entry programs, the majority of the edits are performed post collection. Edits consist primarily of two types: (1) *consistency edit* and (2) an *historical ratio edit* of the current year's reported value to the prior year's value.

The *consistency edits* check the logical relationships of data items reported on the form. For example, if a value exists for employees for a function then a value must exist for payroll also. If part-time employees and payroll are reported then part-time hours must exist and vice versa.

For each function where employees are reported, the *historical ratio edits* compare data for the number of employees and the average salary between reporting years. If data fall outside of acceptable tolerance levels, the item is flagged for further review. Additional checks are made comparing data from the Annual Finance Survey to data reported on the Census of Government Employment to verify that if employees are reported on the Census of Government Employment at a particular function the government also reported a corresponding expenditure on the Annual Finance Survey.

For *historical ratio edits* and *consistency edits*, the edit results are reviewed by analysts and adjusted as needed. When the analyst is unable to resolve or accept the edit failure, contact is made with the respondent to verify or correct the reported data.

Imputation

Not all respondents answer every item on the questionnaire. There are also questionnaires that are not returned despite efforts to gain a response. Imputation is the process of filling in missing or invalid data with reasonable values in order to have a complete data set for estimating state and national totals.

For nonresponding general purpose governments and for dependent and

independent school districts, the imputations were based on recent historical data from either a prior year annual survey or the 2002 Census of Government Employment, if available. These data were adjusted by a growth rate that was determined by the growth of units that were similar (in size, geography, and type of government) to the nonrespondent. If there was no recent historical data available, the imputations were based on the data from a randomly selected donor that was similar (based on the same criteria) to the nonrespondent. Each of the selected donor's data items was adjusted by dividing the data item by the population (or enrollment) of the donor and multiplying the result by the nonrespondent's population (or enrollment).

The imputations for nonresponding special districts were done similarly. If prior year reported data were available, the data were adjusted by a growth rate that was determined by the growth of reporting units that were similar. Special districts are similar if they are of the same organization code and similar geography, e.g., police protection in a state or water transport in a region. For nonresponding special districts with no recently reported data available, data were used from a randomly selected donor that was similar to the nonrespondent. In cases where equivalent-quality (as determined by research) secondary data sources existed, the data from those sources were used.

Note: For 2007, the individual unit imputed data are available on the Individual Government Data file released to the public. [Data flags](#) are included to denote the imputed data.

Tabulation

After the data were edited and imputed, the 2007 Census of Government Employment data were aggregated to yield the viewable and downloadable files that are available on the Website. In the publications for employment statistics, full-time employees, full-time pay, part-time employees, part-time pay, full-time equivalent employment, and total March pay are published.

Sampling Variability

The data for the census are not subject to sampling and do not contain sampling error. The user should be mindful that the data for years not ending in '2' or '7' are from sample surveys and are subject to sampling error. Discussions of sampling error are available in the survey methodology descriptions for those years. For any comparisons of census year data to a sample year, the data user must perform hypothesis tests using the survey year's sampling errors. For the census year, the sampling error is zero.

Nonsampling Errors

Although every effort (as described in the Data Processing section) is made in all phases of collection, processing, and tabulation to minimize errors, the sample data are subject to nonsampling errors (such as, inability to obtain data for every variable from all units in the sample, inaccuracies in classification, response

errors, misinterpretation of questions, mistakes in keying and coding, and coverage errors). These same errors may be evident in census collections and may affect the Census of Governments data used to adjust the sample during the estimation phase and used in the imputation process.

Overall Unit Response Rate

The overall response rate to the 2007 Census of Government Employment was 88.5 percent. All of the 50 state governments responded to the survey. In determining the unit response rate, a unit was determined to be a respondent if it provided information on all the key variables for at least one function on the survey form. This unit response rate was calculated for each state as well as for the total U.S., and gives the percentage of the units in the eligible universe that actually responded to the survey.

$$\text{Overall Unit Response Rate} = \frac{\text{Number of units who reported all key variables for at least one function}}{\text{Number of units in the eligible universe}} \times 100$$

Total Quantity Response Rate

The total quantity response rate was also calculated for the key variables for each state. This response rate is computed separately for each key variable by summing the data provided by the respondents for the key variable and dividing this sum by the sum of the respondent data and the imputed data for the key variable. The result is multiplied by 100.

$$\text{Total Quantity Response Rate for key variable} = \frac{\text{Sum of response data for key variable}}{\text{Sum of all data for key variable}} \times 100$$

Total quantity response rates for full-time equivalent and total payroll for all function codes are available in the downloadable excel files for local governments and for state and local governments combined. Unit and Total Quantity response rates by state are published in the following tables:

[State and Local Response Rates](#) – Unit and total quantity response rates by state for state and local government combined

[Local Response Rates](#) – Unit and total quantity response rates by state for local governments.

Modal Response Rate

Each respondent that received a mail questionnaire had the option of returning the paper questionnaire, reporting data using a website developed for reporting data electronically, or working directly with staff members to report over the phone, fax or email. In addition, some governments have developed alternative

reporting arrangements, known as central collection. Table 1 shows the response rate by mode for state and local governments that reported to the Annual Survey of Government Employment and for the governments that reported to the Census of Governments Local Government Directory Survey (G-30).

Table 1: Modal Distribution for 2007 Census of Government Employment			
	State Governments	Local Governments	G-30 Respondents
Web	21.3%	29.5%	20.0%
Paper	19.8%	50.4%	79.3%
Central Collection	55.0%	1.2%	0.0%
Other	4.0%	18.9%	0.7%